

REMARKS

In accordance with the foregoing, claims 1-15 are pending and under consideration.

CLAIM REJECTION UNDER 35 U.S.C. §103

Claims 1-6, and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,859,268 to Chou et al (hereinafter "Chou"), in view of the article "*PMD-induced BER penalties in optically-amplified IM/DD lightwave systems*" by Morkel et al. ("Morkel").

Relative to claims 1, 4, and 15 in lines 10-12 of item 2, on page 2, the Office Action submits that Chou does not disclose "an optical SNR calculation section that determines an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section" (citing claim 4), but relies on Morkel to provide the missing feature. However, Morkel does not teach or suggest determining the SNR based on the DOP. In Morkel, the Q penalty (increase of the BER) is determined in relation to the PMD. The Q-penalty is different from the SNR. In fact, Morkel explicitly states in the paragraph above FIG. 3 that

The experimental Q-penalties are in good agreement with the characteristic predicted using eqns. 1 and 2, evaluated for a nominal optical SNR ($=V_1/2V_{ase}$) of 10 in a 1nm bandwidth, within the limits of experimental error. The characteristic is relatively insensitive to the optical SNR chosen.

The above paragraph clearly proves that Morkel does not assume that the model he proposes provides any information regarding the SNR which is either constant or the Q result is independent of the SNR value. Therefore, we believe that it is hard to ignore that Q is not SNR.

Therefore, Chou and Morkel alone or in combination, fail to teach or suggest all the elements of independent claims 1, 4 and 15, so that claims 1, 4 and 15 together with claims 2, 3, 2-11, 13, and 14 depending directly or indirectly from these independent claims, patentably distinguish over the cited prior art¹.

¹ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Independent claim 12 is patentable at least because the cited prior art fails to teach or suggest "an optical signal to noise ratio calculation section which determines an optical signal to noise ratio of said optical signal, based on the measured value of the degree of polarization obtained by the degree of polarization measuring device in said automatic polarization mode dispersion compensation apparatus."

Claims 7-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chou, in view of Morkel, and further in view of U.S. Patent No. 6,512,612 to Fatehi et al ("Fatehi"). Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Chou, in view of Morkel and Fatehi, and further in view of U.S. Patent No. 6,514,273 to Suzuki ("Suzuki"). Claims 13 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chou, in view of Morkel, and further in view of U.S. Patent No. 6,885,820 to Eder et al ("Eder").

Fatehi, Suzuki and Eder alone or in combination do not correct or compensate for the above identified failure of Chou and Morkel in teaching or suggesting all the features of independent claims 1 and 4. Dependent claims 2, 3, 5-11, 13, and 14 are patentable at least by inheriting patentable features from claims 1 and 4 from which they depend, respectively.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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